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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,652	03/17/2004	Alan Smithies	15880.10026	2651
27128	7590	06/06/2005	EXAMINER	
BLACKWELL SANDERS PEPER MARTIN LLP 720 OLIVE STREET SUITE 2400 ST. LOUIS, MO 63101				CAMERON, ERMA C
		ART UNIT		PAPER NUMBER
		1762		

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/708,652	SMITHIES, ALAN
	Examiner	Art Unit
	Erma Cameron	1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-21 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 1,3,4,7-9,11,14 and 15 is/are allowed.  
 6) Claim(s) 2,5,6,10,12,13,16-18,20 and 21 is/are rejected.  
 7) Claim(s) 19 is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 17 March 2004 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. 6) <input type="checkbox"/> Other: _____.	

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2, 5-6, 10 and 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 2: it is not clear at what point in time the calendaring occurs – before or after the treating and curing?

b) Claims 5 and 12: it is not clear at what point in time the pleating occurs – before or after the other steps such as treating and curing.

c) Claim 10: it is not clear how glass could be termed a polymer substrate.

***Specification***

3. The priority statement should be updated.
4. [0032] is too small to read.
5. [0051] What does “table 2 of Figure 8 mean? Figure 8 appears to have no Table.
6. [0056] ends abruptly in mid-word.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
8. Claims 16-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 726348 taken in view of Fukata (4454189) or EP 1096057.

‘348 teaches applying a stiffening agent such as PAI (3:14-17) to a porous fibrous substrate such as an aramid substrate (see Example 1) to make a filter. The dry weight basis is 3-30% of the weight of the substrate (3:35-40), which appears to overlap with applicant’s claimed range. The material is then pleated at 200-250 degrees C (4:39-41). The operating temperature is as low as 200 degrees C (328 F) (2:33-39) or as high as 365 C (625 F).

If the pleating occurred at 240 degrees C (400 F) and the operational T is 250 C (418F), the process of '348 meets both the application T over 375 F and pleating at a higher T than the operating T.

'348 fails to teach the calendaring step.

'057 teaches a calendaring step for fabric that is to be used to make a filter, both to adjust the thickness and to compact the fibers at the surface ([0054]).

'189 teaches calendaring fabric that will be made into a filter to compact it and give it wet strength (4:20-29, 7:11-15).

It would have been obvious to one of ordinary skill in the art to have added the calendaring step of '057 or '189 to the '348 process because of the advantages the calendaring process adds – adjusting thickness, compacting the fabric and giving it wet strength.

***Allowable Subject Matter***

9. Claims 1, 3-4, 7-9, 11, 14-15 are allowed.
  
10. Claims 2, 5-6, 10 and 12-13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:  
The prior art does not disclose nor suggest making a filter by impregnating a fibrous substrate with a polyimide, wherein the filter is able to withstand at least 100000 cleaning pulses at the operating temperature of the filter.

***Information Disclosure Statement***

13. One of the JP references appears to have too many numbers and has been lined thru. Several of the 7/20/2004 references have been lined thru, as they are duplicates.

***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erma Cameron whose telephone number is 571-272-1416. The examiner can normally be reached on 8:30-6:00, alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Erma Cameron*  
**ERMA CAMERON**  
**PRIMARY EXAMINER**

Erma Cameron  
Primary Examiner  
Art Unit 1762

May 31, 2005